

ABSTRACT

Organoclays based on specific types of ester quats are found to be remarkably effective for use in preparing nanocomposites. These organoclays comprise the reaction product of a smectite clay and a quaternary ammonium compound (or "quat") which comprises two esterified radicals (hereinafter called a "diester quat").

- 5 The diester quat may be present in admixture with further quaternary ammonium compounds having esterified radicals, especially compounds having three esterified radicals (hereinafter "triester quats"); or compounds having a single esterified radical (hereinafter "monoester quats"). Where such a mixture of quats is used, the reaction
- 10 is between the smectite clay and the quat mixture. The diester quat should be present as greater than 55 wt% of the quaternary mixture; and any triester quat should be less than 25 wt%, with the fatty acids corresponding to the esters in the mixture having a degree of unsaturation such that the iodine value ("IV") is from about 20 to about 90.

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